

## Proposed Project

Upper Little Patuxent Watershed

**Project Number:** BF37

**Subwatershed:** Plumtree Branch 2

**Project Type:** Riparian Buffer Replacement

**Project Size:** Approx. 1,500 feet in length / 1.46 acres

**Project Location:** In the vicinity of Hearthstone Road, Brookmede Road and Longview Drive.

**Project Description:** The buffer along both sides of the stream in this area has been greatly reduced or is absent. The project would entail planting of native trees and shrubs to widen the existing buffer. Most properties are privately owned and would require homeowner cooperation.

Use of volunteer assistance for site preparation, planting and necessary maintenance and monitoring of the site could help reduce overall project cost.



### Project Benefits:

Stabilization	Additional trees and shrubs will help stabilize the stream bank.
Habitat	Planting here will provide some habitat improvement but is limited by the proximity of the houses and roadway.
Water Quality	A more established buffer will provide shading effects to reduce water temperature and will trap runoff and pollutants such as fertilizers from the adjacent properties.

### Project Constraints:

Environmental	No environmental/permitting constraints are present.
Property Ownership	This project is mostly located on private properties (3230, 3234, 3229 and 3233 Hearthstone Road; 3230, 3242, 3241, 9514 and 9506 Longview Drive; 3233 and 3241 Brookmede Road – vacant properties are privately owned).
Facility Access	Access to this site can be obtained from Hearthstone Road, Brookmede Road and Longview Drive
Design / Construction	No design constraints were recognized.

## Proposed Project

Upper Little Patuxent Watershed

**Project Number:** BF37

**Subwatershed:** Plumtree Branch 2

**Project Type:** Riparian Buffer Replacement

**Project Size:** Approx. 1,500 feet in length / 1.46 acres

### Cost Detail:

ITEM	QTY	UNITS	UNIT COST	TOTAL (Volunteer Labor)	TOTAL (Without Volunteer Labor)
<b>Riparian Buffer Replacement</b>					
Plant Material (trees)	1.46	AC	\$3,750.00	\$5,457	\$5,457
Plant Material (shrubs)	1.46	AC	\$2,725.00	\$3,966	\$3,966
Mulch, Tree Shelter	991	PLANTS	\$6.00	\$5,943	\$5,943
Cost to Plant	991	PLANTS	\$6.00	\$0	\$5,943
Site Preparation (volunteer)		AC	\$0.00	\$0	\$0
Basic Site Maintenance and Monitoring (volunteer)		AC	\$0.00	\$0	\$0
<b>Direct Construction Subtotal</b>				\$15,366	\$21,309
Base Construction Cost				\$15,366	\$21,309
Mobilization (10% of Directs or \$1,000)				\$0	\$0
<b>Subtotal</b>				\$15,366	\$21,309
Contingency (30%)				\$4,610	\$6,393
<b>Construction Subtotal</b>				\$19,976	\$27,702
Env't'l Studies / Permitting (5% of Construction or \$1,000)				\$0	\$0
Landscape Design and Surveys (25% of Construction or \$5,000)				\$0	\$0
<b>Total Capital Cost</b>				<b>\$19,976</b>	<b>\$27,702</b>
<b>Operations and Maintenance Costs</b>					
Annual Maintenance	5	Percent		\$768	\$1,065
Discount Rate	5	Percent			
Expected Life	5	Years			
<b>Net Present Value of Annual Costs</b>				\$3,326	\$4,613
<b>Life Cycle Cost</b>				<b>\$23,400</b>	<b>\$32,400</b>

### Cost Notes and Assumptions:

Project costs were derived for both volunteer and paid labor. In calculating costs for volunteer labor it is assumed that local volunteer organizations could accomplish the project with County assistance and oversight. Site preparation, planting and any necessary maintenance and monitoring would be conducted by volunteers.

Planting density is planned at 1 tree or shrub planted at 8 foot intervals for a total of 681 plants per acre.

Size and species of trees and shrub plant material is based on approved Howard County Recreation and Parks information and is typically a 3-4 foot plant. Use of more mature or more immature plant material would affect the planting density and cost per plant.

Cost of plant material is based on 2009 survey of local and regional wholesale native plant nurseries. Plant material (seedlings) may also be obtained from the Maryland Department of Natural Resources, State Forest Tree Nursery at a much reduced cost or through Howard County's Stream ReLeaf program at no cost.